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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,056	12/09/2003	Royden C. Sanders	SDI21-US	7540

24222 7590 04/30/2004

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EXAMINER

A, PHI DIEU TRAN

ART UNIT	PAPER NUMBER
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3637

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/731,056

Applicant(s)

SANDERS, ROYDEN C.

Examiner

Phi D A

Art Unit

3637

-- Th MAILING DATE f this c mmunicati n app ars n th cover she t with the corresp ndence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4-10, 12-14, 17-18, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsu (5758455).

Hsu shows a seismic sensitive inertial mass motion system comprising a seismic power converter (2) consisting of a chamber (42, figure 1), a mass (the piston rod inside 42) loosely contained in the chamber, the mass movable in at least one axis, a servo displacement unit (1) associated with the structure, a means for translating the displacement of the mass to the servo displacement unit, the chamber comprising a hydraulic cylinder filled with hydraulic fluid, the mass comprising a piston having a home position at a midpoint within the cylinder, the means for translating comprising hydraulic lines (7), the servo displacement unit comprising a hydraulic slave cylinder (1), the means of translating comprising cables (11), the servo displacement unit comprising a cable connection, the system associated with at least one base isolated support component of a base isolated structure, the servo displacement unit linking the ground to the base isolation support component, the means for translating the displacement comprising an inertially in phase linkage of the mass to the support component whereby the inertial in-axis position of the mass and the support component are the same (the pull force being the same), the system associated with a non-isolated structure, the servo displacement unit linking a movable counter to the structure, the means for translating the displacement of the mass comprising a linkage of the

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mass to the counter mass whereby an in-axis movement of the chamber results in an opposing movement of the counter mass, the non-isolation structure is a building,

Per claims 12-14, 17-18, 20 Hsu shows a seismic sensitive inertial mass motion system comprising at least one seismic power converter (2) securely earthbound with a selected axis and angle approximate one base isolated support component of a base isolated structure, and consisting of a hydraulic master cylinder filled with hydraulic fluid and configured with an available range of motion for inertial displacement of a piston equal to at least the range of motion of a typical earthquake and a home position at a midpoint in the range of motion, the piston loosely contained within the master cylinder and normally resting at said home position, at least one hydraulic servo cylinder (1) associated with the structure and oriented in the same said axis and angle as its respective said master cylinder, hydraulic lines (7) for translating the displacement of the piston to the hydraulic servo cylinder, the servo unit linking the ground to the base isolated support component, the means for translating the displacement comprising an inertially in phase linkage of the piston to the support component whereby the inertial in-axis position of the piston and the support component remain equal, whereby an in-axis movement of the master cylinder results in an opposing movement of the counter mass, the non-isolated structure comprising a building, the hydraulic servo cylinder linking a movable counter mass to the structure comprising a two ended servo cylinder and movable counter mass assembly of fixed length, the two ends of which are secured to two respective attach points in the structure, the counter mass being movable along a line therebetween, the master hydraulic cylinder buried in the earth (inherently so as the system is supported on an earth foundation), the master and servo cylinders are mounted vertically.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (5758455) Kondo et al (4736701).

Hsu shows all the claimed limitations except for three sets of the power converter and respective said servo displacement unit, a first set being oriented at right angles to a second said set, a third set being oriented at right angles to each of the first and second set.

Kondo et al shows a plurality of sets of dampeners (33) at different angles to protect the central structure (10).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hsu to show three sets of the power converter and respective said servo displacement unit, a first set being oriented at right angles to a second said set, a third set being oriented at right angles to each of the first and second set because having sets of power converter and respective displacement unit at different angles covering the central structure would enable the dampeners to protect the structure from unpredictable forces from different directions toward the center of the structure as taught by Kondo et al.

5. Claims 11, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (5758455).

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Hsu shows all the claimed limitations except for the structure being a bridge supported on bridge supports.

Hsu discloses the structures being architectural structure or civil structure.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hsu to show the structure being a bridge supported on bridge supports because bridges and houses are well known civil structure subjected to vibration per earthquake and wind.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (5758455) Kondo et al (4736701).

Hsu shows all the claimed limitations except for at least two power converters proximate each of the base support component oriented at right angles to each other.

Kondo et al shows a plurality of sets of dampeners (33) at different angles to protect the central structure (10).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hsu to show at least two power converters proximate each of the base support component oriented at right angles to each other because having sets of power converter and respective displacement unit at different angles covering the central structure would enable the dampeners to protect the structure from unpredictable forces from different directions toward the center of the structure as taught by Kondo et al.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (5758455).

Hsu shows all the claimed limitations except for the master and servo cylinder being mounted horizontally in the same axis.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hsu to show the master and servo cylinder being mounted horizontally in the same axis because it has been held that rearranging parts of an invention involves only routine skill in the art, *In re Japikse*, 86 USPQ 70.

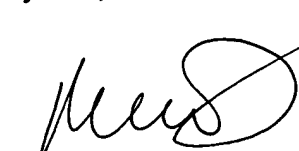
***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different seismic device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 703-306-9136. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 703-308-2486. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Phi Dieu Tran A

4/27/04